# Respiratory Protective Equipment Fit Test Providers Training Course Approval Scheme

# Training Course Syllabus

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**British Safety Industry Federation**
Fourth Floor Offices, The Roberts Building, 48 Maylands Avenue, Hemel Hempstead HP2 4SQ
Tel: 01442 248744 Email: enquiries@bsif.co.uk

# RPE Fit Test Providers Training Course Approval Scheme

## Fit2Fit Training Course Syllabus

This document specifies the minimum content that is required to be covered in the training material. It is based on four sections with each section containing several subsections. Against each subsection reference documents are given. Additional content may be included in the training material to reinforce the learning.

**Note: Reference documents changes over time and while Fit2Fit will endeavour to keep the references current, it is the responsibility of the training course provider to ensure that the most up to date reference document and their content is correctly reflected in the content of the training course.**

| Fit2Fit Training Course Syllabus elements | Reference documents |
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| **Section 1. Knowledge of RPE** | |
| **1.1 General understanding of RPE use in workplace – against different hazards**<br>*Training materials must include a general overview of RPE use against workplace respiratory hazards including:*<br><br>• Particulates – including their various forms<br>• Gases and vapours<br>• Oxygen deficiency | • HSG53 Respiratory protective equipment at work - A practical guide |
| **1.2 Implementing RPE use in the workplace – Importance of Certification marking**<br>*Training materials must include a general overview of applicable certification/conformance assessment and marking.*<br><br>• CE marking – include example including 4-digit number<br>• UKCA/UKNI conformity assessment marking - include example<br>• EN standards and their marking for facepieces and particle filters<br>• Explain their meaning – legal requirement<br>• Relate to examples of RPE | • HSG53<br>• HSE L25 Personal Protective Equipment at Work Regulations 1992, Guidance on Regulations<br>• HSE L5 Control of Substances Hazardous to Health (COSHH) Approved Code of Practice and guidance |



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| *Content must include relevant images and/or illustrations* | |
| **1.3 Implementing RPE use in the workplace – selection**<br>*Training materials must include a general overview of selection including adequacy and suitability. An application example of suitability and adequacy is required.*<br><br>• Adequate - explained<br>• Adequate – include example(s)<br>• Suitable - explained<br>• Suitable - job<br>• Suitable - wearer<br>• Suitable – environment<br>• Suitable – include example(s) | • HSG53<br>• EN529 Respiratory protective devices - Recommendations for selection, use, care and maintenance Guidance document<br>• HSE L25<br>• HSE L5 |
| **1.4 Implementing RPE use in the workplace – RPE storage, Use and maintenance**<br>*Training materials must include a general overview of RPE implementation including:*<br><br>• Storage – purpose<br>• Use – wearer training<br>• Use – management and supervision<br>• Maintenance – purpose<br>• Maintenance – competent person<br>• Maintenance – records<br>• Maintenance – manufacturer's instruction | • HSG53<br>• HSE L25<br>• HSE L5 |
| **1.5 Protection factors**<br>*Training materials must contain explanations of the following*:<br><br>• Fit Factor<br>• Assigned Protection Factor | • HSG53<br>• BS EN529 |



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| • Nominal Protection Factor | |
| **1.6 Types and classes of RPE & filters (HSG53 Appendix 1&2)**<br>*Training materials must include a general description of the RPE types and filters, including how particles filters work – where applicable to the fit test method(s).*<br><br>**Respirators**<br>• Respirators – what they are<br>• Respirators – general limitations<br>• Facepieces - essential components<br><br>• Negative pressure - how they work<br>• Negative pressure – limitations<br><br>• Powered/assisted - how they work<br>• Powered/assisted – limitations<br><br>**Air supplied breathing apparatus**<br>• Air supplied breathing apparatus, including fresh air hose and self-contained breathing apparatus (SCBA) - how they work<br><br>**Filters**<br>• Filter types– particulates, gases, combined<br>• Filtration theory<br>• Filters – importance of correct selection for use in the workplace<br>• Filters – importance of correct selection for use during fit testing<br><br>*Images and/or illustrations of the above RPE types* | • HSG53<br>• EN529 |



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| *Must include practical examples of RPE facepieces applicable to the fit testing method(s) covered by the training* | |
| **1.7 Identification, assembly, inspection, and maintenance of the facepiece prior to fit testing**<br>*Training materials must cover facepiece identification, assembly (and any necessary disassembly) and inspection of facepieces (and filters where appropriate) applicable to the fit testing method(s) covered by the training*<br><br>• The purpose of inspection e.g., for adequate condition for fit testing<br>• How and what to inspect<br>• Identification and inspection of facepieces and their component parts (e.g., valves, straps, etc.)<br>• Explanation of the function of the facepiece components<br>• Inspecting for fault, damage, deterioration, and contamination<br>• Understanding consequences on the fit result - (i.e., false fit test results)<br>• Relevant action to take where fault found<br>• Contaminated facepiece<br>- potential hazards to fit tester and wearer<br>- particles inside potentially resulting in false failures<br><br>• Facepiece identification - markings, sizes, manufacturer, etc. – all the relevant details required for a correct fit test record/certificate<br><br>*Must include practical examples of RPE facepieces applicable to the fit testing method(s) covered by the training*<br><br>*Minimum of 6 different facepiece types and classes (where applicable) and from different manufacturers to be used.*<br><br>*Demonstration and delegate practical session to include facepiece identification, inspection and fault finding* | • HSG53<br>• HSE L5<br>• HSE INDG479 Guidance on respiratory protective equipment (RPE) fit testing<br>• RPE manufacturers' user instructions<br>• Fit2Fit Companion guides to HSE INDG479 |



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| **1.8 Facepiece donning, wearer and task related factors**<br>*Training materials must include details on correct donning, fit-checking and cover wearer and task related factors applicable to the facepiece types covered by the fit test method(s)*<br><br>Generic rules for donning with reference to the manufacturers' instructions, covering:<br>• Positioning on face<br>• Adjustment - straps/head harness<br>• Adjustment - nose piece<br>• Comfort assessment period<br>• Fit tester visual inspection<br>• Fit tester/wearer corrective actions<br>• Use of mirror as an aid<br><br>Fit-checking with reference to the manufacturers' instructions:<br>• The purpose of fit checking<br>• Method(s) of fit-checking<br>• Fit tester/wearer corrective actions<br><br>Wearer related factors:<br>• hair and facial hair<br>• facial jewellery<br>• makeup<br>• Corrective spectacles<br><br>Task related factors:<br>• Other PPE required, impact on RPE fit and action required during the fit test | • HSG53<br>• HSE L5<br>• HSE INDG479<br>• RPE manufacturers' user instructions<br>• Fit2Fit Companion guides to HSE INDG479 |



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| *Practical exercise to include demonstration and delegate practical session covering donning, including observation, visual inspection and fit-checking*<br><br>Minimum of 3 types of facepiece covered in above.<br><br>*Must include practical examples of RPE facepieces applicable to the fit testing method(s) covered by the training*. | |
| ***Section 2. The Role of Fit Testing*** | |
| **2.1 Required Legal Knowledge and Understanding**<br>*Training materials must include an overview of relevant regulations and guidance pertaining to RPE use with more detailed content on regulations and guidance pertaining to fit testing*<br><br>• The relevant regulations and ACoPs applicable to RPE use and fit testing<br>• The status of fit testing in the ACoP<br>• The requirements pertaining to competence of fit testers<br>• The applicability of fit testing and repeat fit testing as covered by relevant ACoP(s)<br>• Where to find guidance on RPE use<br>• Where to find guidance on fit testing | • HSG53<br>• HSE L5<br>• HSE INDG479<br>• HSE L143, Managing and working with asbestos, Control of Asbestos (CAR) Regulations 2012 Approved Code of Practice and guidance<br>• HSE L121, Work with ionising radiation Ionising Radiations Regulations 2017 Approved Code of Practice and guidance<br>• HSE L132 The Control of Lead at Work Regulations 2002 – Approved Code of Practice and guidance<br>• HSE L101 Safe work in confined spaces. Confined Spaces Regulations 1997 Approved Code of Practice and guidance<br>• Fit2Fit Companion guides to HSE INDG479 |
| **2.2 Purpose of fit testing**<br>*Training materials must explain the role of fit testing, its applicability to facepiece types and when fit testing should be refused*<br><br>• Explain purpose of fit testing | • HSG53<br>• HSE L5<br>• HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479 |



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| • What types of facepieces?<br>• When to fit test and when to retest<br>• When not to fit test<br>• Decline – facial hair<br>• Decline – smoking (eating and drinking) – (not applicable for CNP)<br>• Decline clearly inadequate RPE<br>• Decline – wearer's health, heavy cold, etc., which may invalidate the fit test result | |
| ***Section 3. Principles of Fit Testing*** | |
| **3.1 Fit test methods**<br>*Training materials must include an overview of the principal three UK fit testing methods – qualitative (taste) quantitative APC and quantitative CNP*<br><br><u>Qualitative</u><br>• Principle<br>• Outline of method<br>• Limitations on facepiece type<br>• Pros and cons<br>• Qualitative test agents<br>• Subject v objective measurement<br>• Limitations of use<br><br>*Images/illustrations of examples of equipment*<br><br><u>Quantitative (APC)</u><br>• Principle<br>• Outline of method<br>• Limitations on facepiece type<br>• N95 technology why and when | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions<br>• HSG53 |



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| • Pros and cons (incl. ambient particles and wearer generated particles)<br>• Limitations of use<br><br>*Images/illustrations of examples of equipment*<br><br><u>Quantitative (CNP)</u><br>• Principle<br>• Outline of method<br>• Limitations on facepiece type<br>• Pros and cons<br>• Limitations of use<br><br>*Images/illustrations of examples of equipment* | |
| **3.2 Fit test exercises and activities**<br>*Training materials must include details on the fit test exercises and actions required by the fit tester covering safety and deviations from the exercise protocol.*<br><br>• The purpose of exercises<br>• What they are including head movement and breathing requirements<br>• How they should be conducted<br>• Purpose of activity cycling, stepping etc<br>• (Not applicable for QLFT and CNP)<br>• Precautions – wearer safety, physical ability, and coordination<br>• Recording deviations from protocol, e.g. due to wearer restricted movement<br><br>*Demonstration of exercises* | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **3.3 Information for and requirements of the wearer - in advance of the fit test session** | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479 |



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| *Training materials must include details on pre-test wearer briefing essential to the fit test method(s)*<br><br>• Explain the test purpose<br>• Explain the test exercise protocol<br>• Seek confirmation on wearer health in relation to use of RPE and the fit test exercises<br>• Wearer requirements specific to the fit test method(s):<br>  ○ facial hair and long hair<br>  ○ smoking, eating, drinking<br>• Other head worn PPE required to be used with the RPE<br>• Explaining possibility of a fit test failure and potential solutions | |
| **3.4 Considerations for the employer prior to fit testing**<br>*Training materials must include details on the necessary pre-test employer briefing essential to the fit test method(s)*<br><br>• Information conveyed to the wearer – see 3.3<br>• Wearer and task specific needs – e.g., in-mask spectacles<br>• Other PPE required<br>• Appropriate filter(s)<br>• Suitable room<br>• space and furniture<br>• air quality/ventilation (*not applicable to CNP*)<br>• Declaration that wearer is medically fit | • HSG53<br>• HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **3.5 Preparing the wearer immediately before the test**<br>*Training materials must include details on questions and actions a fit tester should take relating to the briefing and preparation of the wearer before conducting a fit test*<br><br>• Explain to the wearer: | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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| - the purpose of the fit test<br>- briefly how the fit test method works<br>- what the wearer needs to do and how to do it during the fit test<br>- what the wearer needs to do at the end of the fit test (keep the facepiece on to permit inspection of fit and validation checks)<br>• Restriction on the wearer during the fit test, e.g., no talking,<br>• Agree means of communication between fit tester and wearer | |
| **3.6 Facepiece donning prior to fit test**<br>*Training materials must include content detailing the actions a fit tester should take as the wearer dons the facepiece for the fit test*<br><br>• Provision of donning guidance<br>• Observation of donning the facepiece and other PPE<br>• Fit-checking and corrective actions<br>• Settling and comfort time | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions<br>• RPE manufacturers' user instructions |
| **3.7 Actions required during the fit test**<br>*Training materials must include content detailing the actions fit tester should take during a fit test*<br><br>• Continual observation of wearer<br>• Continual observation of fit test equipment<br>• Control of the wearer during the test<br>• Fit test exercises - correct pace & action | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **3.8 Interpretation of results**<br>*Training materials must include information on knowledge and on the practical steps a fit tester should take to interpret and validate a fit test result* | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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| • Pass/fail criteria applicable to facepiece types and fit test method<br>• Validation steps appropriate to the fit test method(s) | |
| **3.9 Diagnosing reasons for failures**<br>*Training materials must include content covering the steps (when/what/how) fit testers should take to diagnose failures*<br><br>• Visual examination of fit – looking for changes during test<br>• Re-examination of the facepiece<br>• Diagnostic checks on equipment<br>• Corrective actions before re-testing | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions<br>• RPE manufacturers' user instructions |
| **3.10 Post-test requirements – wearer**<br>*Training materials must include content on the post fit test wearer debrief*<br><br>• Facepiece suitability for the wearer<br>• Requirements/condition relating to the need for a repeat fit test | • HSE INDG479<br>• HSE L5<br>• Fit2Fit Companion guides to HSE INDG479 |
| **3.11 Record keeping**<br>*Training materials must include details on why fit test records are required, their content and rules and guidance around retention*<br><br>• Why a record is required<br>• Content to be recorded<br>• Who should receive a copy of the fit test record/certificate<br>• Retention of records | • HSE INDG479<br>• Fit2Fit Companion guides to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **3.12 Post-test requirements – equipment**<br>*Training materials must include, where appropriate to the fit test method, content on:* | • HSE guidance relating to avoiding transmission of infection during fit testing<br>• RPE manufacturers' user instructions |



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## Fit2Fit Training Course Syllabus

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| *a)hygiene requirements relating to transmission of infection and reference where appropriate HSE, RPE and fit test equipment manufacturers' guidance.*<br>*b)the actions required to return wearer facepieces to service*<br><br>• Clean and disinfect facepiece and fit test equipment<br>• Return facepiece to usable condition ensuring all facepiece components are present and working | • Fit test equipment manufacturers' guidance and user instructions<br>• INDG479<br>• Fit2Fit Companion guides to HSE INDG479 |



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# RPE Fit Test Providers Training Course Approval Scheme

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| ***Section 4. Fit test Methods*** <br> ***Section 4.1 - Method 1: Qualitative Fit Testing*** | |
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| **4.1.1 Knowledge of test basis and equipment required** <br> *Training content must include detailed content which explains the essential background knowledge of the method and principle of operation* <br><br> • Aerosol taste test <br> • Purpose of hood and nebulizers <br> • Difference between sensitivity solution and fit test solution <br> • Purpose of sensitivity solution <br> • Purpose of fit test solution <br> • Limitations of the method <br> ○ types of facepieces <br> ○ wearer taste response <br> • Equivalent fit factor <br> • ISO 16975-3 as the reference Standard for the QLFT kit <br> • Additional equipment required <br> - water <br> - timer <br> - record proforma <br> - Mirror | • INDG479 <br> • Fit2Fit Companion Qualitative method guide to HSE INDG479 <br> • Fit test equipment manufacturers' guidance and user instructions <br> • ISO 16975-3 Respiratory protective devices - Selection, use and maintenance Part 3: Fit-testing procedures |
| **4.1.2 Environmental Requirements** <br> *Training content must include details on the room requirements for application of this method, and must include explanations* <br><br> • Suitable room <br> - Ventilation requirements and why? <br> - Space & Privacy | • INDG479 <br> • Fit2Fit Companion Qualitative method guide to HSE INDG479 <br> • Fit test equipment manufacturers' guidance and user instructions |



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| **4.1.3 How to Prepare the equipment**<br>*Training content must include details on the necessary steps required to prepare the equipment for use and in accordance with current guidance*<br><br>**Hood**<br>• Cleaning and disinfecting as per current guidance<br>• Assembly and inspection of the hood<br><br>**Nebulizers**<br>• Cleaning and disinfecting as per current guidance<br>• Labelling<br>• Theory of operation<br>• Correct use<br>- Sufficient solution volume as per current guidance<br>- Both bungs removed<br>- Held vertical<br>- Full bulb squeezes<br>- Speed of application<br>• Checking for correct operation<br>• Troubleshooting and rectifying problems<br>• Ongoing care<br><br>**Facepieces**<br>• Cleaning and disinfecting as per current guidance and as recommended by the RPE manufacturer<br>• Correct filter selection for the fit test – particulate why?<br>• Correct filter selection – considering intended RPE use to cover use of G&V filters<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • HSE guidance relating to avoiding transmission of infection during fit testing<br>• Fit test equipment manufacturers' guidance and user instructions<br>• RPE manufacturers' user instructions<br>• INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479 |



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| **4.1.4 Sensitivity Test**<br>*Training materials must include details on the purpose, application, outcome, and troubleshooting*<br><br>• Brief wearer – taste test, mouth open, breathe through mouth<br>• Application of Sensitivity Test aerosol - correct use of nebulizer and positioning of nebulizer outlet within hood<br>• Application to ensure homogeneous concentration inside the hood<br>• Application of sensitivity solution – number of squeezes<br>• Checking of nebulizer function during use<br>• Actions to take on taste and nil taste<br>• Results of the Sensitivity Test and the respective number of nebulizer applications for the Fit Test<br>• Need to clear taste in mouth and on lips – why, how? (e.g. rinse mouth/wipe face)<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **4.1.5 Fit Test**<br>*Training materials must include details on the purpose, application, outcome, and troubleshooting*<br><br>• Ensure sensitivity taste has cleared and wearer's palate clear<br>• Remind wearer of exercises and safety<br>• Remind wearer of restriction on talking<br>• Remind wearer of taste test - mouth open…breathe through mouth<br>• Explain what to do if wearer can taste the test agent<br>• Observe donning, giving instruction<br>• Inspect fit<br>• Correct fit-check and actions<br>• Placement of other PPE<br>• Placement of hood (taking into account other PPE) | • INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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| • Use of Sensitivity Test result<br>• Application of Fit Test aerosol - correct use of nebulizer and positioning of nebulizer outlet within hood<br>• Application to ensure homogeneous concentration inside the hood<br>• Timings and number of nebulizer applications – initial and top-ups<br>• Constant checking of nebuliser function<br>• Control of, and constant engagement with the wearer<br>• Time and continuity for exercises<br>• Correct exercise action and pace<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | |
| **4.1.6 Verification of result and 'Reveal Test'**<br>*While the application of the 'Reveal Test' is not a HSE requirement it is good practice and as such is recommended.*<br>*Training materials must include this element*<br><br>• Verification of the result<br>- Constant engagement with the wearer - signs and degree of taste response<br>- Constant engagement with nebulizer function<br><br>• 'Reveal Test' – reassurance of correct fit test<br>- Actions required on no taste<br>- Action required on taste<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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| **4.1.7 Interpretation of fit test results**<br>*Training materials must include information on knowledge and on the practical steps a fit tester should take to interpret and validate a QLFT result*<br><br>• Confirming a positive result (see 4.1.6)<br>• Slight taste of test agent – *always assume a negative result*<br>• Definite taste – possible causes<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **4.1.8 Troubleshooting**<br>*Training materials must include content covering the steps (when/what/how) fit testers should take to diagnose problems*<br><br>• Nil taste response during the sensitivity test<br>• Nil taste response to the 'Reveal Test'<br>• Diagnosing reasons for failures<br>  ○ poor donning,<br>  ○ faulty facepiece<br>  ○ Poor application of the QLFT method<br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions<br>• RPE manufacturers' user instructions |
| **4.1.9 Post-test requirements – wearer and employer**<br>*Training materials must include details on the QLFT record, content to be conveyed to the wearer and employer, where applicable, and guidance around retention of the record* | • INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479 |



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| • Communicating the meaning of result to wearer/employer applicable to both a pass and a failure<br>• Explaining the fit test report<br>• Guidance to be given to the wearer on the RPE tested<br>• Guidance on re-tests<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | |
| **4.1.10 Repeat fit testing following a failure**<br>*Training materials must include content covering the actions and the reasons why, a fit tester should take to ensure the suitability of a subsequent retest*<br><br>• When to retest following a failure<br>• Conducting further fit tests on the same wearer – need to repeat Sensitivity Test<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479 |
| **4.1.11 Post-test requirements – fit test equipment and RPE**<br>*Training materials must include content on hygiene requirements relating to transmission of infection and include HSE, RPE and QLFT fit test equipment manufacturers' guidance*<br><br>• Action to take regarding the QLFT equipment between fit tests and on completion of fit testing<br>- Solutions<br>- Nebulizer<br>- Hood<br><br>• Action to take regarding the facepieces between fit tests and on completion of fit testing<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • HSE guidance relating to avoiding transmission of infection during fit testing<br>• INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions<br>• RPE manufacturers' user instructions<br>• |



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# RPE Fit Test Providers Training Course Approval Scheme

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| ***Section 4.2 - Method 2: Ambient Particle Counting (APC) Fit testing*** | |
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| **4.2.1 Knowledge of APC instrumentation**<br>*Training content must include detailed content which explains the essential background knowledge of the method and principle of operation*<br><br>• Function – ambient particle counter<br>• Need for IPA & purity<br>• Function – compares particle numbers from inside and outside facepiece<br>• Limitations of use – ambient particle operating range<br>• Modes of operation –controlled by computer software<br>• Modes of operation –standalone option | • INDG479<br>• Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **4.2.2 Environmental Requirements**<br>*Training content must include details on the room requirements for application of this method, and must include explanations*<br><br>Suitable room<br>• space<br>• privacy<br>• Minimum ambient particle concentration for disposable filtering facepiece, half facepieces and full-face facepieces<br><br>• Why these levels are required<br>• Factors affecting ambient particle concentration<br>▪ Effect of AC/ventilation on ambient particle concentration<br>▪ Effect of room size on ambient particle concentration | • INDG479<br>• Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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Tel: 01442 248744 Email: enquiries@bsif.co.uk

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| **4.2.2 Setting-up the instrument, plus ready for use**<br>*Training content must include details on the necessary steps required to prepare the equipment for use including troubleshooting and corrective actions*<br><br>Set up and assembly<br>• Daily checks<br>• The purpose of the ambient particle concentration measurement<br>• The purpose of the zero check<br>• The purpose of the Maximum fit factor check<br>• Corrective actions<br><br>*Demo and practical session*<br><br>Methods to increase ambient particle concentration<br>• Increasing particle conc. pros and cons<br>• opening windows<br>• candles<br>• particle generator<br><br>Using the software<br>• Entering details<br>• Pass criteria including N95 Technology/Companion<br>• Selecting and checking protocol timings<br>• User preferences<br>○ stop at fail<br>○ flag up FF >100,000<br><br>*Demo and practical session* | • INDG479<br>• Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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| **4.2.3 Prepare an RPE for fit testing using an adaptor**<br>*Training materials must cover how to correctly select and fit a suitable fit test sampling adaptor/probe to the facepiece(s) applicable to the fit testing method(s) covered by the training*<br><br>**Probing adaptor**<br>• Check to ensure complete and in good working condition<br><br>**Probing**<br>• Types of fit test sampling adaptors for disposable and reusable facepieces<br>• Fitting fit test sampling adaptors to facepieces<br>• Placement on correct side of facepiece and orientation wrt APC<br>• Extending and terminating the sample tubing inside the facepiece in the correct location<br>- HSE sample termination requirements and why this is important<br>- Potential consequences of poor sample tube termination<br><br>• Precautions to take with sample tubing extensions – what?<br>• Precautions to take with sample tubing extensions – why?<br>• Checks to ensure free sample path<br><br>*Example/illustrations of correct facepiece probing across a range of facepieces*<br><br>*Example/illustration of common errors using fit test adaptors and of poor facepiece probing*<br><br>*Demo and practical session on facepiece probing across a range of facepieces including disposable filtering facepieces, half and full-face facepieces*<br><br>**Filters**<br>• Correct filter selection for the fit test – particulate why?<br>• Correct filter selection – considering intended RPE use to cover use of gas & vapour filters | • INDG479<br>• Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions<br>• RPE manufacturers' user instructions |



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| **4.2.4 Conduct an APC fit test**<br>*Training materials must include details on the process, purpose, application, outcome, and troubleshooting*<br><br>**Pre-test actions:**<br>Remind/brief wearer in the fit test process including:<br>- Check clean shaven<br>- Check smoking restriction eating drinking<br>- Fit test exercise physical workload<br>- Fit test exercises<br>- Safety of the wearer during the fit test<br>- Communication between wearer and fit tester<br>- Observation of donning the facepiece and other head worn PPE/ corrective spectacles<br>- Correct fit-check and corrective actions<br>- Supporting and managing the APC sample tubing<br>- Settling and comfort time<br>- What to do at the end of the test<br><br>**Fit test actions:**<br>- Control of, and constant engagement with the wearer<br>- Observation of real time in-mask particle concentration<br>- Time and continuity for exercises<br>- Correct exercise action and pace<br>- Note any issues e.g., coughing | • INDG479<br>• Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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| **End of fit test actions**:<br>• Pass all exercises<br>• How to verify a pass (see 4.2.5)<br>• Fail fit test<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | |
| **4.2.5 Validating a pass result**<br>*Training materials must include details of how a fit tester can validate a positive fit test result, especially for passes with high fit factors.*<br><br>• Use of the 'real time function to validate a pass | • Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **4.2.6 Interpretation of Results**<br>*Training materials must include information on knowledge and on the practical steps a fit tester should take to interpret and validate a QNFT result*<br><br>• The potential for false passes and false failures and steps to take to avoid<br>• Very high fit factors may indicate a problem with facepiece sample (see 4.2.5)<br>• Checking for potential problems with sample tubes and probing<br>• Wearer generated particles<br>• Condensation in sample tubing<br>• Typical and atypical fit factor results<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • HSE INDG479<br>• Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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| **4.2.7 Troubleshooting**<br>*Training materials must include content covering the steps (when/what/how) fit testers should take to diagnose problems*<br><br>**Investigating failures**<br>• Inspection of fit<br>- Use of real-time function –donning problems<br>• Re-check of the facepiece<br>• Re-check APC equipment<br>- Insufficient ambient particle count<br>- alcohol warning low or flooded<br>- Wearer generated particles<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • HSE INDG479<br>• Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **4.2.8 Post-test requirements – wearer and employer**<br>*Training materials must include details on the QNFT record, content to be conveyed to the wearer and employer where applicable and guidance around retention of the record*<br><br>• Communicating the meaning of result to wearer/employer applicable to both a pass and a failure<br>• Explaining the fit test report<br>• Guidance to be given to the wearer on the RPE tested<br>• Guidance on re-tests<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • INDG479<br>• Fit2Fit Companion Quantitative Ambient particle counting (APC) method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions<br>• RPE manufacturers' user instructions |



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| **4.2.9 Post-test requirements – fit test equipment, adaptors and RPE**<br>*Training materials must include content on hygiene requirements relating to transmission of infection and include HSE, RPE and QNFT fit test equipment manufacturers' guidance*<br><br>• Actions to take regarding the QNFT equipment between fit tests and on completion of fit testing<br>  ○ QNFT device<br>  ○ Fit test adaptors<br>  ○ Sample tube – (touch and moisture management)<br><br>• Returning RPE to usable condition<br>  - Clean and disinfect<br>  - Remove adaptor and replace valves etc<br><br>• Care of instrument– HEPA filter<br>• Shut down<br>• Care of instrument– remove wick to prevent flooding<br><br>*The practical element of the course must include demonstration and delegate practical session(s) covering the above elements* | • HSE guidance relating to avoiding transmission of infection during fit testing<br>• INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions<br>• RPE manufacturers' user instructions |
| **4.2.10 Care and maintenance of instrument**<br>*Training materials must include information relating to ongoing care and maintenance of the APC to ensue valid and correct operation*<br><br>• User care and maintenance requirements<br>• Annual calibration for valid fit tests | • Fit test equipment manufacturers' guidance and user instructions<br>• HSE INDG479 |



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| **4.2.11 Knowledge of the N95 technology**<br>*Training materials must include details on the N95 technology, including its purpose, the basics on what it does and when it is required*<br><br>• Purpose of the N95 technology<br>• What the N95 technology does<br>• Effect on the maximum fit factor reported<br>• When to use the N95 technology<br>• Effect on ambient particle count and actions required regarding ambient challenge particle generation | • HSE INDG479<br>• Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |
| **4.2.12 Selecting the APC instrument with the N95 technology**<br>*Training materials must include details on selecting the N95 technology, and the actions required*<br><br>• Selection of the N95 technology function<br>• Additional daily checks required<br>• Ambient particle concentration needed<br>• Actions to increase the ambient particle concentration | • Fit2Fit Companion Qualitative method guide to HSE INDG479<br>• Fit test equipment manufacturers' guidance and user instructions |



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